ECA Update
March 17, 2016

In this update:

Interim Consolidated Storage Act of 2016 introduced by SC Rep. Mick Mulvaney

ECA Staff

Alexander Says $6.5 Billion Uranium Processing Facility Must Stay On Track, Budget

The Chatanoogan

Researchers crack 50-year-old nuclear waste problem, make storage safer

Phys.Org

Science and solutions for environmental remediation at PNNL

Tri-City Herald

Inslee To Energy Department: Let's Make Up, Make Progress On Hanford Cleanup

KUOW

Upcoming Events

March 2016

30

New Mexico Site Specific Advisory Board (NMSSAB) Meeting
1:15 PM MST

August 2016

9-10

Third Annual Intermountain Energy Summit
Idaho Falls, ID
Visit website.

September 2016

14-15

DOE National Cleanup Workshop
Hilton Alexandria Mark Center
Alexandria, VA
Visit website.

INL nuclear fuel shipment delayed

Post-Register

Hanford whistleblower case to be heard in Kennewick

Union-Bulletin

Bechtel & BWXT share some details on their SMR plans

Nuetron Bytes

Interim Consolidated Storage Act of 2016 introduced by SC Rep. Mick Mulvaney

ECA Staff

Yesterday, South Carolina Rep. Mick Mulvaney introduced his "Interim Consolidated Storage Act of 2016 " bill: https://www.congress.gov/bill/114th-congress/house-bill/4745/cosponsors

The bill would amend the Nuclear Waste Policy Act to allow the Department of Energy (DOE) to take title to high-level waste and spent nuclear fuel (prioritizing the waste at sites without an operating nuclear reactor) and contract with "with any person that holds a license for an interim consolidated storage facility." The bill is good for private sector entities interested in hosting consolidated interim storage facilities like WCS and Holtec/Eddy Lea Energy Alliance.

It is almost the exact same as the "Consolidated Interim Storage Act of 2015" bill filed by Texas Congressman Mike Conaway last October. However, this bill has provisions allowing immediate access to the interest in the Nuclear

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Waste Fund for the purposes outlined in the bill. It also differs in that the funding will be subject to annual Congressional appropriations.

Find a link to the bill here.

Alexander Says $6.5 Billion Uranium Processing Facility Must Stay On Track, Budget
The Chatanoogan
March 16, 2016
LINK

U.S. Sen. Lamar Alexander on Wednesday said Congress needs to set priorities so the National Nuclear Security Administration can keep some of the nation's largest construction projects under control, maintain our nuclear arsenal, support our nuclear Navy and expand our nuclear workforce.

"The National Nuclear Security Administration has an important national security mission but faces many challenges," said Senator Alexander at a Senate Appropriations Subcommittee on Energy and Water Development hearing for the NNSA Wednesday. "That's why we need to do what we were sent here to do – to govern. Like last year, we will have to make some hard decisions so that we can continue to fund the most important priorities." Senator Alexander leads the subcommittee.

The semi-autonomous NNSA is responsible for managing the nation's nuclear weapons stockpile, reducing global dangers posed by weapons of mass destruction and providing the Navy with safe reactors to drive its ships and submarines.

President Obama's budget proposal includes $12.9 billion for the NNSA, a $357 million increase over enacted funding for the agency in fiscal year 2016.

That includes funding for design and construction of the Uranium Processing Facility at Y-12, and two other major construction projects in South Carolina and New Mexico.

“Combined, these projects could cost more than $20 billion to build, and over the past four years, Senator Feinstein and I have worked hard with the NNSA to keep costs from skyrocketing and to make sure hard-earned taxpayer dollars are spent wisely. We need to make sure these projects are on time and on budget,” Senator Alexander said.

The Uranium Processing Facility is one of the federal government’s largest construction projects. Senator Alexander has told the NNSA he wanted 90 percent of the design to be completed before construction begins on the nuclear facilities. He has also pushed the department to complete the project by 2025 and at a cost of no more than $6.5 billion. Senator Alexander said Wednesday the project is “off to a good start, but there’s a lot more work to be done.”

The Y-12 National Security Complex, located in Oak Ridge, recently announced that it will need 500 more workers to meet increased national security missions. The facility currently employs 4,200 people in Tennessee.

His as-prepared opening statement follows:
We’re here today to review the president’s fiscal year 2017 budget request for the National Nuclear Security Administration, a semi-autonomous agency within the Department of Energy that is responsible for managing our nuclear weapons stockpile, reducing global dangers posed by weapons of mass destruction, and providing the Navy with safe and effective nuclear power.

This is the Subcommittee's fourth hearing this year on the president's budget request, and I look forward to hearing our witnesses' testimony.

The National Nuclear Security Administration, or NNSA, has an important national security mission, but faces many challenges. That's why we need to do what we were sent here to do – to govern.
Like last year, we will have to make some hard decisions so we can continue to fund the most important priorities.

The president's fiscal year 2017 budget request for the NNSA is $12.9 billion, an increase of $357 million (or 2.9 percent) higher than the fiscal year 2016 enacted level.
Today, I'd like to focus my questions on four main areas:
1. Keeping critical projects on time and on budget;
2. Effectively maintaining our nuclear weapons stockpile;
3. Supporting our nuclear Navy; and
4. Maintaining our vital nuclear workforce.

Keeping Critical Projects on Time and on Budget
The NNSA is responsible for three of the largest construction projects in the federal government: the Uranium Processing Facility in Tennessee; the MOX Fuel Fabrication Facility in South Carolina; and the Plutonium Facility in New Mexico.

Combined, these projects could cost more than $20 billion dollars to build, and over the past four years, Sen. Feinstein and I have worked hard to keep costs from skyrocketing. We want to make sure hard-earned taxpayer dollars are spent wisely and that these projects are on time and on budget.

Sen. Feinstein and I have focused much of our oversight on the Uranium Processing Facility in Tennessee over the past five years.
We asked for a Red Team review of the project, which recommended ways to get it back on track.

We said the project had to be completed by 2025 with a cost no greater than $6.5 billion, and the design had to be at least 90 percent completed before we

began construction of the nuclear facilities. We urged the Department to take aggressive steps to get costs under control.

The Uranium Processing Facility is off to a good start, but there's a lot more work to be done.

I'm going to ask you more today about the Uranium Processing Facility, particularly about your schedule for completing the design and when you anticipate construction can begin.

I'd also like to discuss the MOX Fuel Fabrication Facility in South Carolina. The NNSA has proposed that we stop construction of the MOX Fuel Fabrication Facility and recommended that Congress fund a different process, called Dilute and Disposal.

You have said that the Dilute and Disposal alternative will cost less, and get the material out of South Carolina much sooner than it would if we continue to fund MOX.

General Klotz, I am particularly interested in your plan for dealing with the 13 tons of plutonium currently in South Carolina, and ask that you address this in your opening statement.

Effectively Maintaining our Nuclear Weapons
Another major part of the NNSA's budget maintains our nuclear weapons stockpile, and I want to make sure we are spending taxpayer dollars effectively.

The budget request includes $1.3 billion to continue the four ongoing life extension programs, which fix or replace components in weapons systems to make sure they're safe and reliable.

This work must be done—but life extension programs are very expensive, so they need to be properly managed.

I will ask you today whether you will be able to meet your production deadlines on time and on budget.

Supporting our Nuclear Navy
Naval Reactors is responsible for all aspects of nuclear power for our submarines and aircraft carriers.

Naval Reactors has a lot on their plate right now—they are designing a new reactor core for the next class of submarines, refueling a prototype reactor, and building a new spent fuel processing facility.
In addition, Naval Reactors supports the day-to-day operations of 73 submarines and 10 aircraft carriers—including a total of 97 operating reactors.

The small nuclear reactors that Naval Reactors designs and oversees have had an impeccable safety record for more than 60 years; there has never been a reactor accident.

Maintaining our Vital Nuclear Workforce
While life extension programs provide the opportunity to maintain vital skills in many areas, they do not exercise all of the skills needed for a healthy weapons program.

When I had the opportunity to talk to Admiral Caldwell about the Naval Reactors program last week, he told me about his "technical base"—the men and women who respond when our nuclear ships at sea have a problem.

I'd like to hear more from the witnesses today about the challenges they face in maintaining the needed skills within their workforce, and what they are doing to make sure they have the right skills to meet their important missions.

With that, I would recognize Senator Feinstein to make her opening statement.

Researchers crack 50-year-old nuclear waste problem, make storage safer

Phys.Org

March 16, 2016

LINK

Researchers at the University of North Carolina at Chapel Hill have adapted a technology developed for solar energy in order to selectively remove one of the trickiest and most-difficult-to-remove elements in nuclear waste pools across the country, making the storage of nuclear waste safer and nontoxic—and solving a decades-old problem.

The work, published in Science, not only opens the door to expand the use of one of the most efficient energy sources on the planet, but also adds a key step in completing the nuclear fuel cycle—an advance, along with wind and solar, that could help power the world's energy needs cleanly for the future.

"In order to solve the nuclear waste problem, you have to solve the americium problem," said Tom Meyer, Arey Distinguished Professor of Chemistry at UNC's College of Arts and Sciences, who led the study.

Americium doesn't have the same name recognition as a plutonium and uranium, but researchers have been trying to remove it from nuclear waste for decades. Several groups initially succeeded, only to be met with several subsequent problems down the line, rendering the solution unfeasible. Meyer and his team, including Chris Dares, who spearheaded the project, have found a way to remove the radioactive element without encountering downstream problems that have hindered progress.

The technology Meyer and Dares developed is closely related to the one used by Meyer at the UNC Energy Frontier Research Center of Solar Fuels to tear electrons from water molecules. In the americium project, Meyer and Dares adapted the technology to tear electrons from americium, which requires

twice as much energy input as splitting water. By removing those three electrons, americium behaves like plutonium and uranium, which is then easy to remove with existing technology.

Dares describes that nuclear fuel is initially used as small solid pellets loaded into long, thin rods. To reprocess them, the used fuel is first dissolved in acid and the plutonium and uranium separated. In the process, americium will either be separated with plutonium and uranium or removed in a second step.

Meyer and Dares worked closely with Idaho National Laboratory (INL), who provided research support and technical guidance on working with nuclear materials. Most of the experiments were carried out in the laboratories at Idaho, which provided a safe area to work with radioactive material. At present, INL and UNC-Chapel Hill are in discussion about extending the research and to possible scale up of the technology.

"With INL working with us, we have a strong foundation for scaling up this technology," said Dares. "With a scaled up solution, not only will we no longer have to think about the dangers of storing radioactive waste long-term, but we will have a viable solution to close the nuclear fuel cycle and contribute to solving the world's energy needs. That's exciting."

Explore further: Britain to use spent nuclear fuel for batteries to power deep space craft

Journal reference: Science

Provided by: University of North Carolina at Chapel Hill
Read more at: http://phys.org/news/2016-03-year-old-nuclear-problem-storage-safer.html#jCp

March 13, 2016
LINK

As a Department of Energy national laboratory, Pacific Northwest National Laboratory takes pride in advancing scientific frontiers and developing solutions to vexing problems. In particular, we apply our technical expertise to address national needs in security, energy and the environment.

Our support of DOE's environmental management mission is a great example. By combining scientific understanding with applied engineering, we are helping to remediate the environmental legacy resulting from seven decades of nuclear energy research and weapons development.

PNNL has supported the Hanford site mission for more than 50 years. Through our efforts, we have developed a deeper and broader knowledge of Hanford than any other research institution. Moreover, since we live here, we have a keen interest in ensuring that Hanford is cleaned up quickly, completely and safely — and that we protect the environment, especially our beautiful Columbia River, in the process.

Of course, Hanford is only one of 16 contaminated sites in 11 states that DOE is responsible for cleaning up. Our understanding of DOE's environmental management challenges has positioned us to assist cleanup efforts across the DOE complex. PNNL has been a leader in developing subsurface and chemical engineering processes that are the basis for cleanup at Hanford, Savannah River, West Valley and many others.

Hanford is only one of 16 contaminated sites in 11 states that DOE is responsible for cleaning up

We partner with other national laboratories and contractors to develop innovative, science-based solutions. We focus on those complex challenges that have impeded progress in waste processing and environmental remediation and increased life-cycle costs for long-term stewardship. Our

scientists strive to understand and predict how systems will perform, whether they are systems for managing and monitoring residual tank waste; waste processing, immobilization and disposal; or environmental remediation, restoration and stewardship. Our scientific analyses and technical assessments also inform decision-makers' evaluations of options and risk.

In the late 1970s, PNNL developed vitrification technologies to encapsulate high-level nuclear waste in a stable glass form for safe and long-term disposal. Today, we work in our state-of-the-art glass laboratory to advance that research and provide new glass formulations and alternative processing approaches. The goal is to significantly improve the amount of waste that can be stored in each canister while meeting various performance constraints. Developing glasses that are more tolerant to key waste components not only provides a technical basis for increasing how much waste they can hold — which ultimately reduces the number of canisters needed, but also provides opportunities to minimize or eliminate certain pretreatment options. This integrated program is reducing the time the Waste Treatment Plant will need to operate, thus decreasing the cost.

PNNL also provides expertise to help monitor the site. We partnered with Hanford more than 50 years ago to establish the environmental monitoring programs that protect our critical water resources. And our capabilities have come a long way since then. Today, we are developing and applying technologies that allow us to "see" contamination in the subsurface. By comparing images over time, our scientists are constructing three-dimensional, time-lapse movies of contaminant transport in the environment. We can also see, in near real-time, how remediation processes are working and whether they are successfully keeping subsurface contaminants from reaching water resources.

Taking a step toward remediating these contaminants, PNNL researchers recently completed a draft technology evaluation plan for iodine-129 in the Hanford Site soil and groundwater. Iodine-129 is a contaminant of concern

because of its long half-life, high mobility in groundwater and long-term risk to human health and the environment. The plan outlines an approach to evaluate technologies for remediating iodine-129 contamination in the subsurface. It is being implemented in collaboration with the site contractor, CH2M.

Similarly, PNNL researchers and collaborators from the University of Cincinnati and Florida State University are drawing on the computational and experimental resources at the Environmental Molecular Sciences Laboratory (a DOE user facility at PNNL) to demonstrate a new field-deployable sensor that can be used to monitor groundwater, river water and watersheds for pertechnetate, another contaminant of concern.

The team's novel approach overcomes limitations of existing technologies. By using highly selective and sensitive platinum salt that changes in color and brightness when exposed to pertechnetate, it is much easier to detect and quantify pertechnetate in groundwater — even at levels well below the drinking water standard established by the Environmental Protection Agency.

These are just a few of the ways in which PNNL is helping DOE to meet its commitment to clean up Hanford and other sites. By resolving critical technical issues, maturing new technologies, and conducting basic research, PNNL is developing solutions, reducing costs and lowering risks associated with the environmental remediation of former nuclear production sites. Although this effort may take decades, you can count on PNNL to be there for our community and the nation.

Inslee To Energy Department: Let's Make Up, Make Progress On Hanford Cleanup
KUOW
March 14, 2016
LINK

Washington Gov. Jay Inslee wants a federal court order to bring more cooperation from the U.S. Department of Energy for cleanup of the Hanford nuclear site.

The court order is in response to a federal lawsuit filed by the state of Washington under the Inslee administration in 2014. The judge sided with the state Friday, saying the federal government has not been up-front about the cleanup of 177 underground tanks full of radioactive sludge. And that technical problems are plaguing a waste treatment plant still under construction that would bind-up that waste in glass logs.

Inslee said, “Look, these are really tough technical challenges. And the more people we have approach this from an attitude of partnership, rather than hiding the ball, the better off we’ll be.”

This is the second time Washington state has sued the federal government over these issues in the past decade. If the DOE disagrees with this ruling they can take it to the Ninth Circuit Court of Appeals.

A statement issued Saturday by the the Energy department said, “DOE is reviewing the Court's Order and Consent Decree amendment. DOE remains committed to the successful treatment of tank waste at Hanford as soon as practicable."

INL nuclear fuel shipment delayed
Post-Register
March 15, 2016
LINK

Spent nuclear fuel from an Illinois reactor won’t be traveling to Idaho National Laboratory any time soon.

U.S. Department of Energy officials and Idaho Attorney General Lawrence Wasden could not reach an agreement before Friday that would have allowed the DOE to ship the 25 fuel rods in June. Now, the soonest the DOE could ship the radioactive material to Idaho is December, further setting back a research project that originally was scheduled to begin last year.

The decision to delay the controversial shipment from the Byron Nuclear Generating Station in Illinois comes after another potential INL spent nuclear fuel shipment, from the North Anna Nuclear Power Station in Virginia, was called off by the DOE in October. That shipment was eventually rerouted to Oak Ridge National Laboratory in Tennessee.

The fuel shipments have been banned from INL because Wasden and the DOE haven't been able to agree on a solution to resolve the DOE's continued noncompliance with the 1995 Settlement Agreement. The agreement laid out deadlines governing nuclear waste cleanup in Idaho.

For most of last year, Wasden held the position that, under the agreement, the two spent fuel shipments could not be allowed into Idaho until a problem-prone liquid radioactive waste treatment facility, the Integrated Waste Treatment Unit, was up and running.
In more recent negotiations, however, Wasden has backed off that requirement as it appeared the facility was still far from starting up. Still, the two sides have yet to reach an accord on what steps the DOE must take before it is allowed to send the nuclear fuel.

DOE officials initially proposed sending the Byron shipment to INL last summer, and the North Anna shipment in January. But the North Anna shipment has been sent elsewhere, and the Byron shipment is now up in the air, too, as talks continue.

The North Anna rods, sent to Oak Ridge, are being used to study long-term storage of "high-burnup" nuclear fuel, accumulating at power plants around

the country. Several federal facilities around the country have the capability to conduct that research.

But only INL has the unique research facilities to study the other batch of fuel rods from Byron, DOE spokesman Tim Jackson said. The research is tied to fuel recycling, and development of safeguard technologies for nuclear fuel cycles.

From the beginning, INL officials said not receiving the shipments could damage INL's research reputation over the long term, and would mean losing out on a combined $10 to $20 million in federal research funding annually over the next several years.

According to a list of DOE "talking points" about the Byron shipment, INL would conduct the project as part of an "international arrangement," with a goal of completing the research by 2020. But with the delays, completing the research on that time line is looking increasingly unlikely.

Even if the fuel could have been sent in June, the DOE wrote, it would have "required that either the project schedule completion date be delayed or the project scope be reduced."

DOE officials added: "Additional studies and discussions are needed to determine if a December (shipment) date will support the overall research project."

The limited time frames when the shipment can take place are tied to the schedule of operations at Byron, a commercial power plant west of Chicago. The spent fuel rods can only be removed from storage and prepared for shipment at certain times when the plant is in a scheduled outage period.

INL officials declined to comment on the shipment delay.

Idaho Attorney General spokesman Todd Dvorak said Monday that negotiations are continuing between the state and the DOE to figure out a way to bring in the shipment in December. Both Wasden and Idaho Gov. C.L. "Butch" Otter need to sign a waiver in order to allow the shipment into the state.

For most of last year, communication from the DOE to Wasden about the shipments was limited, which frustrated the attorney general. Wasden has repeatedly said he supports the proposed research work at INL, but also needs the DOE to uphold itscommitments to the 1995 Settlement Agreement.

"We're still talking, and having a productive, open dialogue," Dvorak said of the negotiations.

On Monday morning, Wasden and others in his office had a conversation with several "high-level" DOE representatives including Monica Regalbuto, in charge of the DOE's nuclear waste cleanup efforts. They discussed progress at the Integrated Waste Treatment Unit. In the afternoon, Dvorak said, Wasden had a call with top INL officials to discuss the shipment and other issues.

"Lawrence feels very strongly that these are productive conversations, and the dialogue will hopefully lead to some kind of conclusion or settlement that everyone can live with," Dvorak said.
"These informational calls are much more than we had a year ago," he said. "It's that kind of communication — that kind of willingness by both parties to have a meeting every once in a while and check the landscape — that's very important in this process."

Hanford whistleblower case to be heard in Kennewick
Union-Bulletin
March 15, 2016
LINK

The case of Hanford whistleblower Walt Ford will be heard this week after Bechtel National objected to a Department of Labor ruling in his favor.

The Department of Labor said in a ruling made public in August that Bechtel National should pay several months of back wages, attorney fees and $25,000 to Ford, a millwright.

The federal investigation concluded that Ford's role as a whistleblower in his 35 years at Hanford contributed to a decision to lay him off in November 2011.

"In 2011 and 2012, Bechtel National laid off a significant percentage of the craft workforce in a project-wide rolling layoff when construction was suspended on the Pretreatment Facility and most of the High Level Waste Facility," Bechtel said in a statement Monday. "Mr. Ford was among those laid off."

Investigation concluded Ford would have been laid off within a matter of months.

But the Department of Labor found that Ford "was scrutinized and treated more harshly than other employees." He was ranked 25th out of 26 millwrights the month before he lost his job.

The department's contested ruling would have required Bechtel to pay back wages of about $4,500 a month from mid-November 2011 through March 2012, plus interest. Had he not lost his job in the November round of layoffs, he would have been laid off by the end of March, the department found.

The department did not require Bechtel to give Ford his job back, as Ford had requested, because he likely would have been laid off in the next few months.

The hearing, which starts Tuesday at the Benton County courthouse, will consider the case on its merits rather than relying on the initial ruling. It is expected to last four days.

Initial order would have granted Ford $25,000, several months pay and $7,070 in attorney fees.

“We are confident that a full review of the evidence will demonstrate that we carried out the layoff properly,” Bechtel said in a statement.

Ford, who worked at Hanford for more than 30 years, had a history of speaking up for safety, according to Hanford Challenge, which is helping represent him at the hearing.

He initially filed safety concerns when he was working for former Hanford contractor Fluor Hanford at the K Basin spent fuel project in the early 2000s.

He followed that by testifying on behalf of his Fluor supervisor in a Department of Labor investigation that found in favor of the supervisor. Richard Cecil had been laid off after he challenged a 2003 management decision to operate a crane moving radioactive spent fuel despite a warning its brakes might be faulty.

After Ford was hired by Bechtel in 2007, he reported safety concerns, including unsafe actions of fellow employees, according to the Department of Labor investigation. He was selected by Bechtel to start the Materials Handling Facility Safety Council and was picked as chairman by his coworkers.

Bechtel & BWXT share some details on their SMR plans

Nuetron Bytes

March 14, 2016

LINK

The two nuclear engineering giants are starting to get into specifics, and a few interesting facts come out in an email interview with spokesmen for both firms.

On March 4th Bechtel and BWXT issued a press release re-stating the fundamentals of their partnership to design, license, and sell to customers a small modular reactor (SMR). What is significant about it is that over the past two years BWXT has been reducing its spending on the mPower project from a high of nearly $90 million a year to just $10 million. In a regulatory filing it recently sent to the SEC the company reaffirmed its spending for SMR work would remain at the $10 million/year level.

So what's changed? Both firms agreed to answer a series of emailed questions. Here are their answers to the questions posed by this blog.

First of all power is up!
Q: Will there be any major changes in the technology and planned configuration of a customer installation, e.g., two 180 MW units side by side with a single control room?

A: BWXT: Since the announcement that program would be restructured with reduced funding, BWXT has continued to refine the design. BWXT completed a design and cost optimization program during which the thermal power output of the reactor was increased by 8% (to 195 megawatts electric) and the core was redesigned with a two-year fuel cycle and an out-in shuffle scheme. The reactor service building was also redesigned to decrease the embedment depth, but still retain the containment underground. Progress continues with developing the reactor safety case analysis and refining the various Nuclear Steam Supply System (NSSS) system designs including the integral reactor.

NRC Safety Design Review timeline?

Q: Is there a timeline for completing the SMR design, submitting to NRC for safety review?

A: Time to market is key to the program's success, but right now we do not have a fixed timetable. Our focus over the next 12 months will be on confirming the development schedule and identifying the funding partners needed to support the mPower Plant development effort through to design certification.

Q: How much money will be needed to take the design through NRC safety design review?
A: In the coming months, we will be refining our development schedule and associated costs. We will be sharing this information with potential development partners.

Who is the customer?

Q: Is / are there customer(s)? Are there candidate sites?
A: Bechtel will be approaching a focused set of potential development partners including government agencies; nuclear and non-nuclear industrial firms; and utilities. In addition, we are one of the four SMR technologies being incorporated into the TVA early site permit planned for submittal in the next year.

NB: (The other U.S. based SMR developers are Westinghouse, NuScale, and Holtec.)

Q: A few years ago Bechtel / BWXT held a press conference in DC (July 7, 2010) in which First Energy indicated some interest in SMRs, and their Chief Nuclear Officer at the time invested his efforts in tracking developments related to the BWXT design. First Energy is now engaged in a hot rate controversy in Ohio for Davis Besse and Perry plants. As you know, First Energy never completed unit 2 at Perry and never will. Given all that is First Energy still a potential customer? If not, who?

Potential development partners include utilities and nuclear owner / operators. We can't speak for First Energy.

Note to readers: In July 2012 First Energy told the Cleveland Plain Dealer an SMR would cost a fraction of what a new large reactor would cost — under $2 billion. Though FirstEnergy has not committed to buying such a power plant, the Akron-based company said it will study deploying B&W's small reactor. The studies will include financial analyses as well as evaluations of various sites. First Energy signed an MOU to conduct the studies for the SMR with Bechtel and BWXT in July 2010.

First Energy owns and operates nuclear reactors in Ohio at the Davis-Besse and Perry plants. A proposed second unit at Perry was never completed. To save money, any new SMR project would likely be built next to an existing reactor to take advantage of power, roads, and the local workforce. The environmental impacts would be much easier to quantify.

Raising funds to pay for the project?

Q: It sounds like the agreement is more or less a fund raising effort? With DOE having committed its SMR funds to NuScale, where does the partnership think it can get new funding? Will any partners / equity stakes, be from international sources, e.g. China?

A: Bechtel will be approaching a focused set of potential development partners including government agencies; nuclear and non-nuclear industrial firms; and utilities. DOE is included in this group. Both BWXT and Bechtel have remained in communication with DOE since the expiration of the original cooperative agreement. Internationally, we want to participate in the program initiated by the UK government. We will not be seeking funding from China.

Is TVA still in the picture?

Q: Why did Bechtel enter the picture now after BWXT has been engaged in an orderly withdrawal following the end of its collaboration with TVA at Clinch River?

A: Bechtel has always been intimately engaged in the mPower design. Bechtel's and BWXT's confidence in the mPower technology has never changed. In 2014, BWXT slowed its spend to focus on technology development in response to its evaluation of the market.

Note to readers: TVA has never completely cut the cord in terms of its plans for an SMR. In January 2015 Ric Perez, TVA Senior VP, told Nuclear Insider that the utility still plans to move ahead with plans to develop an Oak Ridge site for a small modular reactor. Perez said in the interview that he hopes Babcock & Wilcox will complete their reactor design despite cutbacks in the project, and for a small nuclear reactor to be installed at the Clinch River site in Oak Ridge.
Pereez said TVA is shifting its focus from making Clinch River a design-specific site to being a fundamentally generic SMR facility. It is applying to the NRC for an Early Site Permit and does not have to select a specific reactor design to get one.

Perez was quoted by the Times Free Press as saying, "We want to develop the site so that whoever comes out of the licensing process with a successful design that is certified, we will have a site available for them."

TVA sees enough value in the SMR concept, and in keeping nuclear power as part of a varied portfolio of power generating options, it wants to keep the project going despite an uncertain turn of events, Perez said.

Status of the TVA ESP?

According to the NRC, the Tennessee Valley Authority (TVA) intends to submit an Early Site Permit Application (ESPA) for two or more small

modular reactor (SMR) modules (up to 800 MWe, 2420 MWt) at the Clinch River Nuclear (CRN) site to the NRC for review in the first quarter of calendar year (CY) 2016).

The application will use the Plant Parameter Envelope (PPE) approach, by which an applicant provides sufficient bounding parameters and characteristics of the reactor or reactors, and the associated facilities, so that assessments of site safety and environmental suitability can be made by NRC.

Readers interested in TVA's SMR plans can read more by checking the utility's public slide presentation from 2014.
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